

In the context of the 1st task you are asked to implement a program in C language which will simulate the operation of a movie management information system for Video Club.

More specifically, your program should do the following features:

- Add a new movie
- Delete movie by code
- Search by movie by title
- Search for a movie based on a director

Information describing a movie will be saved in a text file (.txt) in the format shown below:

Movie code (smaller number to bigger number)

Movie title

Last name of director

Name of director

Date released

Month released

Year of publishing

The text file will be read at the start of the program and the records contained will be loaded to a “movie” type matrix (which should preferably be dynamic). The structures you will use to build and save the above information are shown below

```
typedef struct date {  
    int day, month, year;  
}date;
```

```
typedef struct director_info{  
    char* director_surname, *director_name;  
}director_info;
```

```
typedef struct movie {  
    int id;  
    char* title;  
    director_info* director;  
    date* release_date;  
}movie;
```

Add a new movie

When adding a new movie the user will enter the title, name and surname of the director, as well as the date of release. The movie code should be calculated and given automatically by the program. The new registration will be stored at the end of the matrix.

Delete movie by code

When deleting a movie, the user will enter its code to delete a movie and the entry corresponding to the specific code, if any, will be deleted from the matrix. In case there is no entry in the table for the specific code, an appropriate message should be displayed in screen.

Search movie by title

In this option the user will enter the title of the movie and on the screen an entry will be shown. In case it does not exist, it will show an appropriate message on the screen.

Search for a movie based on a director

In this option the search will be based on the surname of the director. Also for the search, Binary search should be used. The user will enter the director's last name and the screen will show the entries corresponding to the specific director. In case that there are no records that match the user search, an appropriate message should appear on the screen.

The above options should appear in a on-screen menu where each action will correspond to a code as follows:

1. Insert a new movie
2. Delete a movie based on movie's id
3. Search a movie based on movie's title
4. Search a movie based on movie's director
5. Exit

The user should be able to repeatedly select one of the above actions until he enters the number 5, at which point the program will end. In that case the file that retains the movie information should be overwritten so that in the event an entry is entered or deleted, it keeps the changes made by the user.